

## Hollings Cancer Center: Telemedicine & Advanced Technology Research Center

### Requested Action

**Legislative Vehicle:** .....  
**Department:** .....  
**Agency:** .....  
**Account:** .....  
**Amount:** ..... **\$2.6M**

### Requested Action

The Hollings Cancer Center (HCC) at the Medical University of South Carolina (MUSC) requests continued funding via the Telemedicine and Advanced Technology Research Center (TATRC) to conduct genomics research that will improve cancer treatment for all South Carolinians.

South Carolina ranks 11<sup>th</sup> in the nation in cancer incidence – and 35<sup>th</sup> nationally for cancer mortality. Using genomics, HCC will attack this problem by investing in high-performance computing equipment and technology that would allow us to remove more cells from the blood to establish their genomics.

To take a leadership role in the era of personalized cancer medicine we need to invest in cancer genetics to predict risk, diagnose, and treatment of these cancers. These efforts will allow us to use novel genetic technology to impact on this problem.

### Need

HCC seeks to attack the high incidence of cancer in South Carolina by collaborating with other major medical centers to use the latest in genetic technology. In terms of national mortality rates, South Carolina ranks 3<sup>rd</sup> highest for prostate and head and neck cancers; 4<sup>th</sup> highest for pancreatic cancer; and 18<sup>th</sup> for lung cancer. Lung cancer is the leading cause of death in the state.

The U.S. Dept. of Veterans Affairs maintains a large hospital adjacent to MUSC's campus. VA physicians are on faculty at MUSC, and HCC researchers and physicians collaborate closely with their VA colleagues. The VA patient population is aging, with attending health problems that include prostate and other common cancers. They would benefit significantly from research discoveries made through HCC's genomics work.

### Proposal

The HCC proposes a four-pronged approach to decreasing cancer diagnoses and death in South Carolina and request:

- Funds to use molecular genetics technology to determine the sensitivity of a tumor to chemotherapy protocols. Upon diagnosis, local hospitals save tumor slivers. HCC scientists believe that they can extract specific genes in each tumor, and by using genetic technologies, can predict which chemotherapeutic agents will be most effective.
- Funds to survey tumor samples for specific cancer mutations that can hinder or enhance treatment. Often cancer cells contain mutant proteins that do not respond to current drugs. By investigating individual tumor samples, investigators at the HCC believe that they can find the mutations. That information will help predict which therapies will be most effective.

- Funds to develop new approaches to treating tumors by exploring the use of specific RNA molecules as new treatment tools. In 2007, a Nobel Prize was awarded for new technology that inhibits the production of elements that nourish cancer. HCC scientists believe that they can use this technology, called RNA interference, to develop specific products that will inhibit the growth of tumors.
- Funds to enlarge CTN membership and to establish a tissue biorepository that will serve all of South Carolina. This tissue biorepository will serve as the nexus for developing personalized medicine. It will anchor (1) the discovery of genetic elements that can predict the effectiveness of current chemotherapy protocols, (2) to allow discovery of cancer abnormalities in known proteins, and (3) to explore the use of RNA interference as a diagnosis and treatment tool.

### NFGC Budget Request for the Hollings Cancer Center

#### **FY'10 DoD Appropriations Bill (Army, RDT and E, Advanced Medical Technology)**

Research Projects	\$800,000
Research Supplies	\$300,000
Research Salaries and Administrative Support	\$500,000
Equipment	\$300,000
Total Direct Costs	\$1,900,000
Total Indirect Costs (@ 46% of Modified TDC)	\$736,000
<b>Total Budget</b>	<b>\$2,636,000</b>

### Contact Information

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